

**BEFORE THE ENVIRONMENTAL APPEALS BOARD**  
**FOR THE STATE OF DELAWARE**

NATIONAL PAINTING AND COATINGS  
ASSOCIATION, et al.,

Appellant,

v.

SECRETARY OF THE DEPARTMENT OF  
NATURAL RESOURCES AND ENVIRONMENTAL,  
CONTROL OF THE STATE OF DELAWARE,

Agency-Below,  
Appellee.

Appeal No. 2002-03

***FINAL ORDER AND DECISION***

Pursuant to due notice of time and place of hearing served on all parties in interest, the above stated cause came before the Environmental Appeals Board on December 10 and 11, 2002, in the Auditorium, Richardson & Robbins Building, 89 Kings Highway, Dover, Kent County, Delaware.

**PRESENT:**

Donald Dean, Chairman

Harold Gray, Member

Peter McLaughlin, Member

Stanley Tocker, Ph.D, Member

Gordon Wood, Member

Kevin Slattery, Attorney for the Board.

**APPEARANCES:**

Jeremy Homer, Esquire, for the Appellant.

Matthew Chessser and Valerie Csizmadia, Deputy Attorneys General, for the Agency

A hearing was held before the Environmental Appeals Board ("Board") on December 10 and 11, 2002, to consider the appeal of the National Paintings and Coatings Association ("NPCA"), the Sherwin-Williams Company, Ameron International Corporation, Rust-Oleum Corporation, the Valspar Corporation, Textured Coatings of America and the True Value Manufacturing Company (collectively -- appellants). Following deliberations held on March 12, 2003, the Board voted unanimously to affirm the promulgation of DNREC Air Regulation Number 41, Section 1.

The appellants contend that the Delaware Department of Natural Resources and Environmental Control (DNREC or "the agency") has adopted a regulation so stringent that it will result in poorly performing paints and coatings. Such products will require multiple applications thus increasing consumer costs and VOC (volatile organic chemical) emissions. A counter-proposal has been made.

It is the agency's contention that VOC's and NOx (nitrous oxide) emissions are being reduced in order to reduce ground level ozone--a serious health risk. Most of Delaware is in a severe non-attainment zone. If the State does not make these reductions, it could lose federal highway funds and risk sanctions by the EPA (federal Environmental Protection Agency). Model regulations benefit both the states and manufacturers in having consistency throughout the region. DNREC did not just rely on what was done before: it did the most comprehensive solicitation for public comments in its history. Consumers want low odor and low health effects coatings and paints. The technology is available and on the market. Many of the products are purported to be of excellent quality.

## SUMMARY OF THE EVIDENCE

- 1) The Board considered the testimony of James Thomas Sell, Esquire.

Mr. Sell testified that he is senior counsel for the NPCA. For the past 25 years he has concentrated on regulatory issues. He has worked for the last 12 years for the industry supporting its position on the regulation at issue in this hearing.

The NPCA comprises 300-400 companies involved in the paintings and coatings industry--both domestic and international. Ninety percent (90%) of the Architectural, Industrial and Maintenance ("AIM") coatings are applied in the field. The coatings must be formulated to work on multiple conditions and on less than perfect substrates. The NPCA lobbies, drafts legislation, and works with regulatory issues such as this one.

Mr. Sell testified regarding the terminology to be used in the appellant's presentation. This included VOC's, water-borne and solvent-borne systems. Consumers prefer the lower-odor, water-borne products. Water-borne products are 80% of the AIM market. High traffic areas require a harder surface and a higher-VOC content product. The lower-VOC products need a greater number of coatings.

The witness recited a history of the AIM coatings regulation. The 1990 amendments to the Clean Air Act addressed consumer products. It took three years of negotiations to come up with a national rule--the federal regulation. The "California Rule" started in the Los Angeles basin--the most extreme non-attainment area in the U.S. They have a weather pattern that would accommodate the use of the lower-VOC products. This regulation was challenged by the industry. The industry felt the regulation went too far, and it is now headed for further legal action.

The Ozone Transport Commission ("OTC") was developed to address regional ozone issues. The OTC developed a model rule based upon the California rule. Delaware signed a memorandum of understanding ("MOU") agreeing to adopt the model rule. There were a few amendments to the California limits for certain coatings necessitating higher-VOC limits. There is an averaging provision--reducing VOC's in some products so that higher-VOC products can continue to be used. It is not in the Delaware rule. Delaware authorized such a provision for other consumer products but not for AIM coatings. Delaware is the only state that has adopted the model rule to date. Maryland, Pennsylvania, New York, New Jersey, Connecticut and Rhode Island are all considering adopting the model rule. The NPCA is not asking for the Delaware regulation to be rescinded, however, they want some changes to certain VOC limits. The regional limit is about 800 tons per day. Their proposal would result in 70% of the reductions sought by the Delaware regulation. The changes amount to only one ton per day in Delaware, and the overall emissions would still be less than that required under the national rule.

Mr. Sell contends that the lower-VOC products will result in higher-VOC emissions. This is due to greater coatings, a higher failure rate, and less durable products.

In Delaware, the agency went to great lengths to gather documents for their regulatory process. Much of that documentation was developed in relation to the California rule. The AIM response document was developed to respond to the comments submitted to the agency. It is Mr. Sell's opinion that the document did not sufficiently address the industry's concerns. It appears to be directed to a predetermined result. The Delaware rule does not require a period for the evaluation of the regulation to see if it results in the

anticipated reductions. The NPCA would like to see a process similar to the EPA process that resulted in a reasonable rule.

On cross examination, Mr. Sell testified that the Suggested Control Measure ("SCM") limits are similar in respect to the California South Coast air quality management district's limits with the exception of floor coatings. The NPCA did not litigate in all of California's 17 air districts that adopted the interim rule. The South Coast district conducted some testing. They found several thousand compliant coatings that meet these requirements today. Delaware wants to eliminate certain coatings that are better for a particular use. The manufacturers do not refer to these products as "inferior" in their product data sheets ("PDS's"). With regard to one product (Polafloor Colorcoat) it would be used on a high traffic area, and it does indicate it has a long service life. Such product sheets are typically drafted by marketing people--not chemists.

On further cross examination, the witness testified that the California Air Resources Board ("CARB") surveys for 1998 and 2001 indicate that the industry continues to introduce lower-VOC compliant coatings. Potentially there will be a similar increase over the next few years. Two years of data are not going to establish the product durability. With regard to Agency Exhibit No. 3, an ICI product (Spred Supreme Flat with a 12 year guarantee), the witness testified this is one particular coating that ICI believes will be durable. Flats is one area where water-borne coatings are durable. By letter dated November 1, 2002 to Gene Pettingill from James Kantola, Technical and Regulatory Information Analyst, ICI did not wish to participate in this hearing. ICI believes the technological feasibility issues can be addressed between 2003 and the 2005 implementation date. In a subsequent letter

dated November 12, 2002 from Mr. Kantola (NPCA Exhibit No. 21), Mr. Kantola expressed pleasure with the consistency of the AIM regulations in the OTC states. He did present concerns with the technical feasibility of some of the limits. He also indicated that the implementation time was appropriate.

With regard to the letter from the Dunn-Edwards Corporation dated September 3, 2002 (Agency Exhibit No. 5), the witness testified that the writer recommended the CARB stick to the SCM limits. The witness testified that Dunn-Edwards supported the SCM limits because they are being given averaging for two years to meet the limits. Delaware's rule does not permit averaging. The witness agreed the South Coast rule is stricter than the SCM--particularly on the floor coatings. The witness agreed that the response document said something about the industry concerns. He disagrees with those findings.

On re-direct examination, Mr. Sell testified that the Polafloor coating may not be appropriate for some uses. With regard to the November 12th Kantola letter, the witness testified that ICI "hopes" to develop low-VOC products for other coating categories. Not all coating technologies will solve all performance issues. Kantola recommended a thorough technology assessment be conducted in advance of the implementation dates.

On questioning by the Board, the witness testified that Congress expected that a price be paid for reductions in VOC's. Some water-based coatings are better than solvent based coatings in certain applications.

2) The Board considered the testimony of William Lance Hall Hemsarh.

Mr. Hemsarh testified that he is employed by the Sherwin-Williams Company as a Vice President of Research and Development in the wood products division. He has been

in the industry for 27 years.

The witness testified that his employer is either 3rd or 4th in industry sales. They have over 300 chemists working for the company. He works with sanding sealers, stains and clearcoats (varnishes). Thirty (30) chemists work in this area, and each chemist is assigned a project. Testing is important for manufacturing, product development and performance. The final step is field trials. He, personally, has to use (apply) every end product. It is a conservative approach to product development.

The witness testified that grain raising, lapping and panelization are the three greatest concerns with coatings. Grain raising and lapping are caused by the application of water-borne product to the wood. Water-based products can cause the floorboards to be "glued" together. Panelization occurs with the expansion and contraction of the wood and causes larger gaps between the boards. With regard to NPCA Exhibit No. 7, the witness testified that Fuhr products are not a major player in floor products. He could not find such products in the stores. They were able to obtain products through distributors after contacting the Fuhr website. Fuhr sells mostly to non-consumer customers. The products are designed to be applied in very controlled environments. Such products are not appropriate for use by end-users (contractors or consumers). With regard to NPCA Exhibit No. 9, (the Agency's list of compliant stains), the witness testified that all the products are for exterior use or OEM (industrial, controlled) use, and are opaque (not semi-transparent). Only three products are "wiping" stains for floors. One was discontinued, and one was not recommended for use on floors. The last was a Fuhr product. The witness produced a demonstration exhibit which is a section of flooring--a test panel--of

natural oak (80% of residential floor market). The stain on the right is Mr. Fuhr's, and the stain on the left is Duraseal--their product. Lapping is evident. In his opinion, lapping would be more evident on a complete floor.

Another demonstration was presented to compare the Fuhr product with a traditional oil-based, polyurethane modified varnish. NPCA Exhibit No. 6 is a label from one of their products--a water-based stain--with a VOC of 400 g/l. NPCA Exhibit No. 11 shows that California is not meeting the 250 g/l limit for these types of products. NPCA Exhibit No. 12--a letter from the Maple Flooring Manufacturers Association ("MFMA")--documents the panelization problems with water-borne sealers. This organization does not have a category for use of a water-borne sealer on athletic flooring. In his opinion, the use of water based stains will result in an increase in the VOC's because of the lack of durability and need for re-application. With regard to NPCA Exhibit No. 13, the witness testified there would be only a .075 ton per day difference in VOC reductions between the Delaware rule and the NPCA proposal.

In reference to the DNREC response document, the witness testified that he felt there was a focus on subjective information and a focus on a predetermined outcome. Regarding page 44 of the response document (paragraph 4), the witness noted that the MFMA survey was not done for any rulemaking, but for the MFMA. The survey was of installers regarding panelization. The purpose of the submission was to show that panelization is directly tied to water-based sealers and topcoats. There was no other data submitted regarding panelization. Regarding page 60 of the response document, the witness testified that DNREC's resolution of the panelization problem is not realistic.

Residential flooring contractors are small businesses. They have to work every day and the solution is not acceptable for an entire industry. Regarding the lapping issue, the stain category goes to many applications and none of the companies noted by the Agency provide stains for applications to flooring.

On cross-examination, Mr. Hemsarh testified that grain-raising occurs to a greater degree in some woods than others. He is not aware of any resins that are self-sealing. Increasing the VOC in a water-based stain decreases the chance of lapping. The Duraseal stain is between 500 g/l and 700 g/l VOC content. It can be less depending on the color. The Fuhr stain has 15 grams per liter. Quart sizes are exempt from the regulation and would still be available to the consumer. Maple flooring is a portion of the total flooring market. Oil-based finishes will yellow over the years. There is no way that the lapping problem can be corrected in a lower- VOC, water-based application given the current technology. With regard to the MFMA survey, the witness testified that the opinions of the contractors might not have taken into consideration the use of the water-based finishes.

On questioning by the Board, the witness testified that panelization can be caused by a variety of problems--including solvent-based applications. Water-based coatings, however, have the potential for panelization depending upon the conditions. Water-based coatings are the norm in gym-style flooring. This is due to the clear appearance of the floor. MFMA does not recommend water-based "sealers" as a first coat. The witness testified that there are non-oil based urethane finishes. They are not appropriate for consumer use. Neither contractors nor consumers are using the water-based floor coating products. There are two-component, water-borne varnishes that are used.

3) The Board considered the testimony of Dr. Douglas Jerome Gardner.

Dr. Gardner testified that he is employed by the University of Maine as a professor of wood science and technology. He has a Ph.D. in wood science. Dr. Gardner gave a powerpoint presentation. His research interests are in the area of wood adhesion and bonding. He did research for the MFMA on panelization in 1997 and 1998. Contributing factors to panelization are the use of water-based finishes and climate conditions. The research was performed on maple flooring. In the MFMA study, there were three oil-borne finishes and three water-borne finishes. He tested shear strength and wood failure. He cured at two moisture contents--12% (representing summer) and 6% (representing winter). With the water-borne finishes there was a much higher degree of wood failure. The shear strengths are significantly higher in the water-borne finishes. The adhesion was similar to wood glues.

On cross examination, Dr. Gardner testified that the major focus of his career has been wood adhesion. There were no spacers between the boards. He used industry standards to measure the adhesion. The product was strong and bonded well. He is not aware of other materials with the problem of panelization. The study was fairly controlled and did not address variations in temperature, climate, etc.... He did not know the brands of the coatings. He also did not know the VOC contents of the coatings. The MFMA recommends that water-based finishes be applied correctly.

On questioning by the Board, the witness did not know whether the solids contents of the finishes were comparable. There is a potential technology for preventing such bonding--applications of waxes, etc... The tests were done with the grain in a different

pattern than what would be experienced in the field.

4) The Board considered the testimony of Mr. John Edward Bennett.

Mr. Bennett testified that he is a self-employed painting contractor. He is president of the local painter's and decorator's association. He does 80% residential work. He applies coatings to drywall and wood. A lot of his work is at the beaches. He is familiar with both water-borne and solvent-borne systems. He does not use low-VOC products unless asked by the customer. There are few low-VOC products that can be applied in all weather conditions. With the solvent based systems, you can work in colder weather. He used a water-based application on a deck and the following year it was flaking. He used acrylic stains on a set of steps indoors and had trouble with lapping and durability. He also has had problems with tannins leaching through the water-based finishes. Most manufacturers recommend an alkyd primer.

The witness testified that the Delaware rule will eliminate many products that work better. It will limit the quality of work for his customers. It will not help to have to use the product twice. It increases labor costs to get the same result. He has four employees. The lower VOC products will limit their work time and it will be conditioned upon the weather.

On cross examination, Mr. Bennett testified that he has never used lead-based paint. He trained with alkyd-based paints. He would try an alkyd-based low-VOC paint, but he would not pick it as his first choice. He does follow the new technology. He did not attend any of the workshops in Delaware on this regulation. He was contacted two weeks ago by Mr. Sell. He used low-VOC products while working for Perdue. New Jersey is a

low-VOC state, and it had the problem of paint peeling off grain tanks. Most people paint indoors when the weather is bad. He bids his jobs by the job. The low-VOC products would not alter his prep time. He has not seen any difference in drying time unless the weather is humid or cold.

5) The Board considered the testimony of Paul Steven Sara.

Mr. Sara testified that he is employed by the Valspar Corporation. He is the technical director for product development, service and quality of AIM coatings. He has been in the paint business for 30 years.

Mr. Sara testified that Valspar employs over 500 chemists worldwide and 50 in the AIM coatings area. His area is primarily non-flat, interior coatings. Mr. Bennett presented a powerpoint presentation. They have not been able to find a low-VOC technology to give the high latex content paints a high quality. The Delaware limits will result in worse products. It will limit low temperature applications and will put more applications in the higher ozone seasons.

The witness further testified that the lower-VOC paints they tested (NPCA Exhibit No. 17) tended to fade, chip and flake. All the paints tested were high end paints in the \$17 to \$24 dollar range. Another photo in the exhibit shows gloss paints with failures at the low-VOC levels. Another problem is stability in the can--"lid skinning". The skin can fall into the paint and leave particles in the paint. Another problem deals with the freeze/thaw cycle. Lower level VOC formulations can result in a paint consistency similar to cottage cheese. There are between 90 and 100 freeze/thaw cycles in this area between Dover and Philadelphia. There are none in the Los Angeles area. They are looking for

new formulations to keep VOC's out of paint--it would be cheaper.

The witness further testified that in a July, 2002 Consumer Reports article on paints (NPCA Exhibit No. 19) the Valspar American Traditions label was listed as the best paint value. None of these paints would meet the levels in the Delaware regulation.

It takes a minimum of two to three years before they are comfortable with placing a product on the market. Climate is very important to the durability of the paint.

The 380 g/l limit in the high gloss category would allow them to have an alkyd enamel product. This is for the high traffic areas. A latex gloss enamel would fail sooner and would require the paint to be applied twice as often.

The witness testified he made comments at the public hearing. With respect to the response document, he testified the comment that Delaware has a climate similar to that of California is not accurate. There is more rainfall and greater freeze/thaw cycles. If the paint requires heated trucks and warehouses, then energy is expended in a different form. If the paint freezes, then it gets disposed in the landfill creating other concerns. He felt there was a lot of editorial license in the comments. The reliance on the South Coast studies and the NTS study is flawed. There was no real life data in the report, and they are still waiting for that data. As to the fringe applications, the witness testified that they try to have some flexibility in the product for consumer issues (like marginal substrates and marginally non-recommended uses).

In his opinion, if the Delaware regulations go into effect, they will have to sell lower quality products. There would be more complaints and failures. There would be more applications and greater VOC emissions.

On cross examination, Mr. Sara testified that their low-VOC paints are the lower quality paints. With regard to NPCA Exhibit No. 9, the witness testified that their Enterprise 12 year exterior latex semi-gloss has a 12 year warranty. This is a lesser quality paint. Their tech sheet presupposes application under perfect conditions. The other paints have 15 year warranties. The American Tradition Satin Accent Bases is a premium paint as are the gloss paints. The tints added at the store are not counted in the Delaware regulation. They count on the tints adding more VOC's. Delaware did make changes in industrial maintenance and certain other coatings from the OTC model rule. They have to accelerate their exposure tests in order to anticipate the results for a greater period of time. The lid-skinning issue is new to the proceedings regarding this regulation. The lid-skinning example was not an example of a paint currently on the market. The frozen paint example was frozen overnight at 25 degrees. The paint was a lab batch with reduced VOC's. It was not a new formulation, but they have tried multiple formulations. The witness could not identify the "competitor" A or B paints used in their testing.

6) The Board considered the testimony of Carl Burke Minchew, Jr.

Mr. Minchew testified that he is employed by Benjamin-Moore as the director of technical services and environmental affairs. He has been in the paint industry for 29 years.

The witness testified that they employ approximately 50 chemists. His area is specialty primers. This involves smoke damage and chalky substrates. Specialty primers and sealers are less than 1/10th of 1% of the AIM coatings. He is not looking for a change in any limit, but rather the inclusion of certain coatings in the classification. The witness

made a powerpoint presentation. He feels the Agency needs to further define the category. Blocking odors should be added to complete the definition. Blocking efflorescence--the deposit of salts on a surface--which is typically from water leaching through concrete block, brick or the like should also be added. At the 200 g/l limit, you are limited to latex coatings. One needs to add Portland cement to the paint so that when it penetrates the surface of the block and contacts water, it expands and blocks the leaching. A water-based paint cannot carry Portland cement. A primer that prevents grain raising should be added as well. This would be an application over raw wood. Another condition that should be added to the category is a high alkaline substrate (see NPCA Exhibit No. 17). Primers have to be applied once. If it fails, however, all the other topcoats come with it.

With regard to the response document, the witness testified that there was no technical verification studies done on the east coast. There was only reliance on the CARB and South Coast studies.

With regard to the reporting requirement, the witness testified that the requirement does not specify how far back the reports should be provided. They feel it should not go back more than two years. The 90 day requirement for producing records is too short a time frame to comply with the request. They would require 120 days (more for those items not on the list).

On cross examination, Mr. Minchew testified that he does not know what time of the year the peeling paint building was done. He only knows that it was done in Southern California. He is not sure of the VOC content or who the contractor was. He was not sure

of the humidity levels or the water content in the stucco. He agreed that the substrate was not properly prepared. He is not saying that the latex coatings will never work for efflorescence.

On examination by the Board, the witness testified that one coat of solvent based specialty primer should alleviate the problem.

7) The Board considered the testimony of Barry Grant Law.

Mr. Law testified that he is employed by the MPI (Master Painters Institute) in Vancouver, B.C. He is the president of the MPDA (Master Painters and Decorators Association), a non-profit society.

Their organization has a working relationship with PDRA and others. He does not have a relationship with the NPCA as it is an industry association. They provide inspectors for certain jobs as quality assurance review. The MPI also develops standards for paint and coatings. They are performance based standards. The GSA uses their standards as well as the Canadian government, the U.S. Department of Defense, the Mormon church, the Veteran's Administration and the American Institute of Architects.

The witness testified that he was asked to testify by both sides. The MPDA is concerned with the performance aspects, but not as much with the VOC's. He is not here to advocate either side's position. The performance standards are being left out of the various rules including South Coast. On the VOC's, the MPI maintains a column on "ranges" and "environmental performance rating". They do mostly commercial and industrial work--high traffic conditions. The MPI's position regarding the relationship between performance and the environment is as follows: if conventional latex is used,

there may be a lower VOC, but it would last only half as long. The alkyd is going to last longer with fewer VOC's in the long run. This applies to interior doors and frames in particular. Higher VOC usually means higher performance, but not in all cases. With regard to NPCA Exhibit No. 31, the witness testified that it shows the Army (Aberdeen Proving Ground) may not know what the rest of the Department of Defense is doing. The DOD requires the MPI standards.

With regard to the Delaware regulation, and the response document, the witness testified that it relies heavily on product data sheets. The technical data sheets are not "technical" as they tend to be written by marketing people. There are better ways to gain information. On the exterior flat coatings, the MPI doesn't have an issue with the limits as does the NPCA. The MPI doesn't encourage the use of exterior flats. As the MPI doesn't recommend water-borne systems for floors, they would agree with the NPCA on that limit. The MPI doesn't see much in the way of lacquers as much is done in the shop (OEM). It does not have a problem with the 150 g/l limit for non-flat coatings with two provisos--certain temperature ranges (35 to 50 degrees Fahrenheit) and the high performance architectural latexes. He does not have a problem with a high gloss latex. There would be a problem if one cannot use a high gloss alkyd in certain situations. Quick dry enamels levels will hurt the small contractors at the Delaware levels. This also applies to primers, sealers and undercoaters--especially where there is the need to use alkyd primers (even with latex topcoats). Sanding sealers are used so infrequently that they don't have a position. There are some strong concerns with the specialty products. Tannin block is a major problem. A limit of 350 g/l would be better for exterior use. The witness had no

problem with the limit on interior use. Stains are not a significant concern--but they do not have a waterborne recommendation for floors. Varnishes are different. A 350 g/l limit is all right for interior use but not for exterior use.

In general, he would add tannin blocking primers or anti-corrosive primers to the specialty coatings category. He also has some concerns with exterior enamels. The high performance architectural latexes need at least a 200 g/l limit. The exterior low temperature category is also a concern.

On cross examination, Mr. Law testified that the Aberdeen Proving Ground exempted any carcinogenic products. The MPI does not look at VOC's, but for the last three years they have been listing VOC's. They have never been contacted by the OTC. Not all manufacturer's are evaluated by MPI, as they have to pay half the cost. Behr is not part of the MPI, and it probably has not tested Behr floor products. He would not rely upon the product data sheets. He expresses no opinion as to whether the manufacturers should be held to their statements.

On questioning by the Board, the witness testified that they use an ASTM standard testing method for the most part.

8) The Board considered the testimony of Deborah Brown--Director of Programs and Advocacy for the American Lung Association of Delaware.

Ms. Brown testified that ground level ozone is dangerous to all Delawareans--in particular children, the elderly and those who exercise. It can inflame the airways and destroy lung tissue. People who have lung disease can truly be affected by ground level ozone. There are approximately 75,000 people in Delaware with respiratory diseases

including asthma. Plants as well as humans can be harmed. Ozone action days are becoming more prevalent. During the last two years, we have had a grade of F--numerous exceedences. The tenth most ozone polluted area in the U.S. is the Philadelphia/ Washington/ Atlantic city area. New Castle County is the 13th most ozone polluted area in the country.

On cross examination, Ms. Brown testified that between April and September there are potential ozone action days. She does not know what causes the ozone pollution in our area.

9) The Board considered the testimony of Mr. Michael Raymond Dixon, P.E.

Mr. Dixon testified that he is president of Dixon Environmental--an environmental consulting firm with offices in Delaware. He represents trade organizations and industry clients. His area is air quality issues. The witness testified that the State Implementation Plan ("SIP") is the federal program that sets the standards for the regions--Delaware is in Region III. Delaware has to submit a plan for compliance with the SIP. In this case, the plan is related to ambient air ozone levels. Sussex is the only county in attainment. New Castle and Kent are in the Philadelphia, Trenton, Wilmington non-attainment area. One part of the effort is Regulation 41. It is important that the federal government approves Delaware's plan. Delaware has flexibility to meet the ambient air quality standards. The EPA sets the standard for AIM coatings for the Philadelphia, Wilmington, Trenton non-attainment area.

The witness further testified that Delaware has met its ROPP goals related to ozone. Delaware's contribution to VOC's for the OTR is 1.5%. Only 0.2% of the OTR involves AIM

coatings in Delaware. Delaware's contribution to VOC's in the Philadelphia, Wilmington, Trenton non-attainment area is 18%--1.7% is from AIM coatings. Most of the VOC emissions in New Castle and Kent counties is from on-road, mobile emissions. Most of the reductions will come from this source. The AIM coatings reduction will amount to about two (2) tons per day. DNREC has claimed a reduction for AIM coatings of 1% from 1990 levels. EPA requires a total of 62 tons per day reduction in the non-attainment area by 2005. The OTC rule would result in a further 29 ton per day reduction in just AIM coatings. The NPCA proposal would result in a reduction of 70% of that 29 tons per day. This assumes that all the states adopt the NPCA proposal. This would be a ½ ton per day difference between the AIM coatings reductions proposed by Rule 41 and that by NPCA (1.8 tons versus 1.3 tons per day).

The witness further testified that DNREC did not account for the re-application issue in its calculated reductions. He believes it should have been taken into account. This could have been accomplished by surveying industry members, contractors and painters to determine the failure rate and how much of the application will occur during the ozone non-attainment months in the summer. With respect to the DNREC response document, it is his opinion, DNREC arbitrarily dismissed the re-application issue. In his opinion, DNREC minimized the re-application issue.

The witness testified that the EPA has not weighed in on this topic. The EPA does not tell the states how to implement its rules. They set the limits. Any allegations that the EPA is going to cut funding and shut down the state operation is not going to happen.

On cross-examination, the witness testified that the claimed reductions come from

Sussex county in addition to Kent and New Castle (in the non-attainment area). He would agree that DNREC should take advantage of all the available Information. His opinion is based upon the testimony from the industry chemists and the MPI witness. He would rely upon the manufacturers and the contractors. He does not factor price in his analysis. He would not focus on just one factor. He has no knowledge of what is going on in California and how the rule has worked. He would not have written a report such as the Pecham Report, but he does similar work. That report included the model rule from the OTC. He did not review the MOU for the OTC. If the State does not meet its goals, the EPA can cut highway funds, force further reductions, and come in and take over the program.

On questioning by the Board, the witness testified that if Sussex is removed, the State's non-attainment area's contribution to overall VOC's increases from 8 ½% to approximately 9%.

10) The Board considered the testimony of Mr. Ali Mirzakhilili.

Mr. Mirzakhilili testified that he is the director of the Air Quality Management Division in DNREC. He has some differences of opinion with Mr. Dixon's testimony. It is his office's responsibility that Delaware comes into compliance with the one-hour ozone standard. There is an eight hour standard that is in the wings. The former must be in compliance until April 2003. In the past year, there were 26 days of non-attainment. This is significant. Exceeding the standards produces adverse health effects. The AIM coatings reductions are just one part of the overall plan to reduce ozone. The agency started with the big sources first--and they are gone. Consumer products such as AIM coatings, gas cans, etc... are the next step. Next will be generators, lawnmowers, etc....

The EPA conditionally approved the SIP, but it was conditioned upon significantly greater reductions. There was a shortfall, and that needs to be covered as well. This is where the regulations (the six control measures) came into play. If Regulation 41 is vacated, it will jeopardize the approval of the SIP. If this occurs, there could be sanctions and other draconian measures such as a 2 to 1 reduction requirement for new sources coming into the state. The EPA could take over the program. These measures have occurred in other states. Whether it is "saber rattling" or not, it would be irresponsible to ignore the issue. The witness testified that this is a regional problem. The ½ ton a day difference cited by the NPCA translates to about 180 tons per year—a significant amount. A sole source is significant at 25 tons per year. Even with the AIM rule, the State is still going to be 3.5 tons short in the SIP. If one source exceeds expectations, it must be compensated for by reductions in another area. The AIM rule is a necessary part of the SIP. The agency did not simply adopt the model rule as drafted. Changes were made following the industry and public input.

The witness further testified that cost is a factor. A train between Dover and Wilmington would cost \$70 million per ton of reduction. A reduction in speed on State Route 1 would cost \$500,000 per ton reduction. He has 80 employees and a \$5 million budget to cover all the areas they have to cover. He does not have the money to conduct the type of studies recommended by the NPCA. It also does not make sense to ignore other studies and research. As part of the OTR, they can tap into their resources. In promulgating the regulation, the agency has assisted in the drafting of the model rule, sought input from the stakeholders, and prepared a 100 page document addressing the

issues. The NPCA may believe this is not sufficient. If the agency were to cut out AIM coatings, then some other source would want concessions as well. No one likes to be regulated. In his opinion, he believes the promulgation has not been arbitrary and capricious.

On cross-examination, the witness testified that he knows no example of a state losing highway funds due to SIP non-compliance. Virginia might have. The federal AIM rule may have been put in place in 1998. The compliance date for Delaware's rule is 2005. The EPA approved the Delaware rule, and therefore, look favorably on it. If the State does not meet its shortfall, it is at risk, and he is not a risk taker. The most recent analysis (not a matter of public record yet) shows there is a 3.5 ton per day (Delaware) shortfall—including the AIM reductions. This resulted from shortfalls in the mobile source category. Each SIP is unique to its State. It lays out each State's responsibility. The OTR was a joint effort. Sussex County would not be in the plan, and Mr. Dixon's cushion includes areas outside the non-attainment area such as Sussex County. The enforcement and compliance portions of the planned reductions are affected by the regulation's popularity. With regard to the AIM rule, there will be some trade-offs in performance. There already is some dissatisfaction. There are deadlines to submit the SIP, and that is why they put the regulations in the SIP before the Board considered this appeal. They rely upon industry input all the time.

On further cross-examination, the witness testified that he does not believe the changes impacted the overall reductions.

On re-direct examination, the witness testified that the ½ ton per day difference in

reduction proposed by the NPCA is crucial. Other reductions in various programs vary between .014 and .04 tons per day. Gasoline vapor recovery is 0.695 tons per day. This is typical. The AIM rule applies across the country--not just ozone non-attainment areas.

On questioning by the Board, the witness testified that he became aware of the NPCA proposal as a whole during these proceedings. Some of the individual proposed limits were included in the comments presented below.

11) The Board considered the testimony of Mr. James Frances Nyarady.

Mr. Nyarady testified that he works for the CARB. In California, the CARB has direct responsibility over mobile and consumer products. There are 35 local air districts--county and multi-county districts. The South Coast is one of the districts. The districts write the regulations related to the AIM coatings, and the CARB has oversight. The CARB presents model rules that they can use to adopt the regulations (the SCM). California has been working on such rules since the mid-1970's. In California, AIM coatings emissions represent 130 tons per day--more than gas stations and refineries combined. The South Coast district is the only district in extreme non-attainment. The witness testified that Agency Exhibit No. 14 is the SCM response document for AIM coatings. The witness testified that Agency Exhibit No. 15 is a program environmental impact report that addresses adverse impacts in air and water quality and can serve as a regulation for the districts. Agency Exhibit No. 16 is the CARB preliminary draft report of the 2001 survey of AIM coatings sales for the year 2000. The witness testified that the number of compliant products has grown between the 1998 survey and the 2001 survey.

The witness testified that the South Coast rule is more stringent than the SCM. The

South Coast rule was struck down due to procedural flaws. It was re-adopted last Friday with some changes. The Delaware rule is more similar to the SCM. The Delaware rule has some more lenient limits especially in the industrial maintenance coatings category. Sixteen of the 35 air districts have adopted a rule similar to the SCM. All are final and none are currently being challenged. They go into effect in January, 2003.

With regard to the averaging provision, the witness testified that it permits the manufacturer to produce products over the limits as long as they are offset by other products. Averaging sunsets on January 1, 2005. Two companies have applied for averaging--Sherwin-Williams and Dunn-Edwards. There is a quart exemption in the SCM. Stains and varnishes are typically (more than 80%) sold in quarts.

As part of the environmental impact report, they studied paint sales to address the claim that coating use will go up with the reduction in VOC's. They found that the sales have remained the same. The SCM was prepared for all of California. It is cold and damp in parts of California. Industry was involved in the development of the SCM--for over 2 ½ years. There were over 40 meetings with industry representatives and organizations. Opposition from the painting and decorating organizations tended to drop off as the process moved forward. They had 10 to 12 people working on this. They had meetings, looked at product data sheets, surveys, and evaluated the testing that South Coast had contracted--the NTS study. That study looked at the various architectural coatings and did comparative tests on the low and lower-VOC coatings (durability, dry time, etc...). The committee that chose the contractor and approved the protocols included about 5 industry representatives, a member of CARB and a member of South Coast. The study showed

that low-VOC coating performed relatively equivalent to the higher-VOC coatings. There are always going to be exceptions. It is difficult to go to performance-based standards because the industry disagrees on what those standards should be. This is why CARB went with a VOC content standard. Most of the coatings already meet the limits some six years before they are to go into effect.

The witness testified that there was a \$6,000 per ton cost for this measure.

On cross-examination, the witness testified that overall, 50% of the coatings meet the limits. Some categories are 100% and some are around 75% (such as flats). In terms of sales, 50% were compliant coatings. For stains, about 30 to 50% are compliant. For clear or semi-transparent stains it is around 16%. Eighty percent (80%) of this type of stain is sold in quarts and is exempt. In addition to the NTS field study, there was the Harlan field study used in the SCM. For the South Coast district there was more recently the KTA Tater field study. This looked at the difference between the more stringent standard and the SCM standard. The San Joachim Valley and the South Coast have climates like Delaware and hold most of the population. They found similar humidity and temperature to the OTC. Delaware has more rain in the winter. There is not a sunset with the South District averaging provision. There are portions of the South Coast district that have freeze/thaw cycles. In Los Angeles, this occurs infrequently.

On re-direct examination, the witness testified that the limited population in the California climates similar to Delaware are comparable to the limited population in Delaware. Flat and non-flat coatings constitute 70% of the sales for overall AIM coatings.

On questioning by the Board, the witness testified that there are areas in California

similar to Delaware weather (including freeze/thaw cycles) where the district has adopted the SCM. It would be difficult for individual districts to undertake the type of research necessary to develop limits--this is why the CARB does it. It is his understanding that the industry did not want them to go to a performance based standard because of the disagreement as to what constituted a certain level of finish. California has to look at the feasibility and cost effectiveness before implementing a regulation. The comparison of whether there were increases in paint sales included low-VOC primers as well as other paints. It compared sales of low-VOC and higher-VOC paints. This remained stable.

12) The Board considered the testimony of Mr. Robert Gordon Sliwinski, P.E.

Mr. Sliwinski testified that he works for the Division of Air Resources in the New York equivalent of DNREC. He has worked for this agency for over 19 years.

The witness testified that in formulating their 1994 SIP, they determined that attainment would not be possible due to the ozone transport. The EPA then formed the Ozone Transport Assessment Group to study the problem. The State and Territorial Air Pollution Program Administrators and the Association of Local Air Pollution Control Offices ("STAPPA/ALAPCO") provides assistance to states to help meet attainment. He was part of a STAPPA/ALAPCO workgroup organized in 1999 to work on a model rule for AIM coatings. They went to existing programs for guidance. California is the leader in such programs. They did a peer review of the California Information, the SCM and the background documents. They developed a model rule and issued it in October of 2000. The model rule from the STAPPA/ALAPCO project is very similar to the SCM. There were some minor changes. The first MOU was signed in June of 2000 by the member states.

The follow-up MOU was signed in March of 2001. The latter agreed that the model rules would be proposed in the member states. Delaware's rule is different from the model rule. STAPPA/ALAPCO reacted to the comments to the proposed Delaware rule and adopted the amendments made to the Delaware rule for the model rule. The EPA is looking into reactivity based standards--it is an ongoing project. There are issues with that approach that need to be addressed such as toxicity issues and latent reactivity. New York is almost through the process of proposing its rule. Maryland and New Jersey are also in the process.

On cross-examination, the witness testified that he bases his testimony regarding alternate technologies upon what they received from California. The witness did not know how the Board's decision would affect the OTC model rule, but they would consider any changes.

On re-direct examination, the witness testified that New York has been sued because it did not meet the EPA deadline and has not made up their shortfall.

13) The Board considered the testimony of Mr. Gene Pettingill.

Mr. Pettingill testified that he is employed with the air quality management division in DNREC. He writes the regulations dealing with air quality. He started working with DNREC in the middle of 2000. He was assigned the consumer products rule and the AIM rule. He started attending the group meetings and meetings with the stakeholders. There were numerous teleconferences. There was a meeting with Rohm and Haas and NPCA at the Rohm and Haas research facility. He spent a lot of time reviewing the CARB documents. The CARB rule was the starting point. He peer reviewed all the documents

related to the CARB rule--the reports, surveys, etc.... Near the end of 2000, the model rule and implementation process was being solidified. At this point, he started putting together a draft rule. By March of 2001, he put the draft on the DNREC website.

The witness testified that the agency also scheduled its first public workshops. They scheduled three meetings--one in each county--at night. The notices were published in the News Journal and the Delaware State News. Using the telephone book, they built a mailing list for the approximately 2,800 contractors in the state and sent them letters regarding the workshops and meetings. In addition, he compiled a list of paint manufacturers and sent letters (or e-mails) to several hundred paint manufacturers and the NPCA. The letter included a listing of the VOC content limits. In the case of manufacturers, he typically spoke with them to get their e-mail addresses and to discuss the rule. In Georgetown there was one (1) attendee. At the Del Tech Stanton Campus meeting there were ten (10) attendees. In this building there were fifteen (15) attendees.

The comments from these workshops were used to make changes to the draft. Approximately June 26, 2001, the next draft was issued and it was the draft that went to the public hearing. There were some people who could not attend the hearing, and they sent written comments. There were over 200 comments, and he responded to them as best he could. The response to these comments comprised the response document (Agency Exhibit No. 9, No. 247 below). He felt more comfortable that there was a large number of compliant paints available on the market. There are 195 documents in the public record--many from the manufacturers themselves.

As a result of the public comment process, changes were made to the rule. Some

were substantive changes he felt were meritorious. He added a section addressing testing procedures and methods. He added a section to address the thermoplastic rubber coatings and mastic category. Nuclear reactor coatings and calcimide recoaters were also added. He did not agree with every recommendation. He probably accepted a half dozen changes. Increasing the VOC limits in a number of different coating categories did not make sense in light of the large number of compliant coatings on the market. He went to as many manufacturers' websites as possible and obtained as many product data sheets as possible. His effort is not comprehensive and the list is an example of what is on the market. He called all the companies to verify the VOC contents were calculated in the proper fashion--minus water and exempt compounds. He discussed panelization with the manufacturers of sanding sealers and clear topcoats.

The witness further testified that the number of compliant coatings indicated to him that the consumer in the state would have no problems finding paints meeting the standards. With regard to low temperature paints, there are plenty available. There are 28 different paint lines that can be applied in 35 degree weather. There are 2,500 entries in the list. The varnishes are very durable and they have letters to this effect. There are companies that know the water-based technology and feel they work. Even ICI did not agree with the NPCA proposal because it reduces the chance for consistency in state rules across the country. These comments were received while they were working on the rule. ICI is in the top ten in paint sales (third), and is supportive of the SCM limits. PPG is also supportive. The U.S. Corp of Engineers published a study on weathering of low-VOC paints. They found four commercially available low-VOC paints that worked better than the

400 to 500 g/l paints they were currently using. The Corp used a humidity/heat testing as well as fresh and salt water immersion testing. He cannot explain why Sherwin-Williams is publishing points about a "waterborne paint revolution" on the one hand and opposing the VOC limits on the other. There are places around the country that have low-VOC's programs. This includes the Aberdeen Proving Ground that is in our region.

The witness testified that the record-keeping/reporting requirements were changed because the comments thought they were onerous. He was convinced that the strict reporting requirements should be relaxed. He cut it out, but he added a comment about keeping records. He left out a time limit, but he will be adding one. There is time to make these changes in the regulatory process as the implementation date is 2005.

The witness testified that he heard the argument about failures and re-coating. One would expect that if this was a serious problem there would not be 2,500 low-VOC products on the market. Also he saw the data coming out of California about the stability in paint purchases.

The witness testified that he does not believe Delaware could have done an AIM coatings regulation on its own. The State doesn't have the resources. Even the STAPPA/ALAPCO people believe the California data and rule are reliable.

On cross-examination, the witness testified that he believed the federal AIM rule was adopted in 1998. He solicited information in order to assist him in formulating the rule. He and the STAPPA/ALAPCO work group agreed to utilize a model rule. The guiding principle was to adopt a rule that was right for Delaware. All the states wanted the rules to be as consistent as possible. The stakeholders wanted this consistency. They felt it

important to support the industry. Almost all the changes were those made to the federal rule. Regarding the response to averaging, he noted that it was not a technology forcing requirement (i.e., the paints are in existence). There may be trade-offs, but they may not cause great difficulties. With regard to compliance, the manufacturers have already had to prepare to comply in California for years, so they should already have much experience doing this. The California Rule will be in effect as of January 1, 2003. The Delaware rule will be in effect in 2005. At the time he wrote about "fringe" applications, he was aware of low temperature paints available. Today there are 28 available. They wanted a rule that gave the State what it wanted and not what might happen if they waited for the manufacturers to see what they could come up with.

With regard to the floor stains issue, the witness testified on cross-examination that the MPI comment only dealt with those stains registered with MPI. Dave Fuhr's composition is not registered with MPI. His list is not the basis for the regulation. It is based on the CARB data. He went one step further and wanted to verify this for himself. As to water-based sealers, panelization was a problem ten years ago. Since then, manufacturer's have produced waterborne sealers that work well if applied as instructed on the can. There are good products available--Hillyard is one of them. The witness spoke with one installer who indicated that he uses Hillyard products and has not had a problem with panelization in 10 years. Panelization still occurs today, but it will not occur with the proper sealer, proper installation and conditions. With regard to the 1998 study, he gave it credit, but he gave it different weight. They had more problems in 1998 than they have today.

On further cross-examination, the witness testified that there is a problem with grain raising associated with water-based finishes. CARB has done work on grain raising and he also relied upon the product data. He does not agree that more applications would be necessary for varnishes if the rule goes into affect. For some of the high gloss paints and enamels, he relied upon the MPI list, and the data sheets. He has used some of the paints himself. There may be some paints that do not perform as well.

As to efflorescence and odors, it is something to consider--it makes sense. It was not in the model rule. Fire damage would include odors. Efflorescence is more a matter of cleaning. He does not agree that wood primers need to be solvent based. He does not view a technical data sheet as a marketing tool. They are used mostly by contractors--not the average consumer. If the paint does not work as listed, the contractor is not going to buy that paint again. He also agrees that for the flooring contractors there will be days they cannot finish "new" floors.

The witness testified that floor traffic is one of the greater abrasion tests on a coating. This is why it is more reasonable to assume floors will wear more. It is a small category, and the emission reduction difference related to an additional coating of varnish is going to be insignificant. It was not taken into account.

As to the August 30, 2001 PPG letter, he concluded from the absence of any criticism that it was in support of the rule. He did not have the November 12, 2002 ICI letter at the time the rule was promulgated. The letter shows less support for the rule than the initial letter. The PPG article is probably based on the federal limits.

On questioning by the Board, the witness testified that he was aware of the NPCA

proposed changes in December of 2000.

14) The Board considered the testimony of Mr. David Roland Fuhr.

Mr. Fuhr testified that he grew up in the paint industry. He worked in the paint industry for 30 years.

He has been doing water based coatings since 1985 as a formulator. He formed his own company in 1980. His first company was a laboratory. This involved product research and development as a contractor. He started doing private label work for various customers. He had 9 different private labels by 1990. With the introduction of the Clean Air Act in 1990, he has gotten involved in the wood coatings business--particularly for OEM use.

The witness testified that when they got into the wood coating business they chose to do only water-based products. They started with sanding sealers and topcoats. They eventually got into stains. As to panelization, the witness testified that there can be a problem at any given time. Steps can be taken to minimize the problem. Hillyards has addressed it like they have with maple flooring. Acrylics are some of the best adhesives on the market. They use a low solids sealer first, and then they apply the topcoat. There are seven to nine types of woodborne coatings. It depends upon the end use. They supply OEM products to pre-finished flooring manufacturers. He agrees that much of the flooring industry is now pre-finished flooring.

As to lapping, the witness testified that to avoid it, one needs to apply it liberally. A delayed dry is the only way to avoid lapping. There are additives that will accomplish this. The stain on the demonstration product has 15 g/l VOC's. They make some 0 g/l

VOC's product. He believes the industry is pretty honest about its data sheets and that they can be relied upon. The staining product they use for the OEM environment is the same product they retail to the public. The water-based stains do come in a variety of colors.

They utilize the resin houses to assist them in their chemistry. It is a starting point to evaluate the product. The resin technology is constantly changing. Some of their technology comes out of the European market where they have been working with waterbased technology for the past twenty years. Union Carbide came to them to market their low-VOC paints regionally. The paints they were shown had already been on the market for five years.

As to freeze/thaw capability, the witness testified they like to see five cycles. A lot of the resins today are freeze/thaw able. They ship to Alaska. Mr. Sara's example was not a good comparison of freeze/thaw paint problem. That paint was a prior formulation with the VOC's reduced. This is not the same as a properly formulated paint.

The witness further testified that one can reduce VOC's in alkyd paints as well as water-borne paints. Water-borne is one alternative. They are also concerned with how the VOC impacts on the environment. Different formulations utilize different VOC's. Some are more toxic than others.

As to durability, the witness testified that the product can be applied under adverse conditions. Proper preparation is key. Humidity is not a factor for water-borne stains--it is an issue for oil-based stains. He is not the only guy who does this or knows this.

Finally, the witness testified that he sees no reason why the larger manufacturers

could not produce the same products.

On cross-examination, the witness testified that he is not being paid for his testimony today. He is the president of his company. He has never done consultation for the State of Delaware. He has met with South Coast personnel on several occasions in order to get his products approved by their laboratories. He prefers to be in the laboratory--approximately 70% of his time. He has not had panelization problems with the use of his products. That has been the case since 1991. His product does not dominate the market because he has not pursued the marketing of the product with the MFPA. His VOC measurements are VOC, less water. Eighty percent (80%) of his products are used in the OEM market. He markets the wiping stain. It is sold through two distribution groups--either on-line or through the distributors. It is sold to homeowners.

On questioning by the Board, the witness testified that most of the product shown today was sprayed rather than brushed. The cold weather application was brushed.

15) As a rebuttal witness, Mr. Minchew testified in response to Mr. Narayda's testimony on the stability in sales. This is probably true. The fallacy is that the rules during this period remained stable. They did not reflect a change in the limits. As the limits in VOC's are reduced, products will come on the market, but this performance has not been tested.

16) As a rebuttal witness, Mr. Hemsarh testified that a quart covers 125 square feet (a medium to small size bedroom). Quarts will not be purchased for the contractor market. It was discussed in the regulatory process of the exemption of quarts. Panelization occurs in residential and sports flooring, therefore, the incidence of panelization will go up.

17) Madeline Kazen-Harding testified she is employed by the Sherwin Williams as the

manager of product compliance and registration. With regard to the California studies used to support the CARB rule, the witness testified there were problems with the NTS studies. All the panels were drawn down: the product was neither brushed on nor sprayed on. This is contrary to the manufacturer's recommendations. It is like an ASTM test, but ASTM does not specify the method of application. They more have standards on how to rate the results. She has not done a study to determine what difference this would make. They were also small pieces of wood. There were no negative or positive controls in the procedures.

On questioning by the Board, the witness testified that she testified in California regarding the NTS study. The protocols start with ASTM standards. Each manufacturer then decides whether to use its own protocols or a modified ASTM standard.

On cross-examination, the witness testified that she has been told that the protocol was approved by the technical advisory committee. There were industry people on the committee. She claims the tests were not outlined in enough detail to determine whether they were properly done.

**18)** In rebuttal, Mr. Sara testified that Mr. Fuhr's use of a particular resin has a utility in medium to low interior paints. It is not good for higher-end products. The resin he cites does not have good freeze/thaw characteristics.

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

The appellants raise several arguments as to why the Secretary's decision to promulgate section 1 of Air Regulation number 41 is erroneous and should be vacated and remanded. The Board considered those arguments and the caselaw cited by the parties, and it concluded that there was a reasonable basis in the record to support the Secretary's decision to promulgate the regulation. The Board voted unanimously in favor of the Secretary's promulgation of the regulation for the reasons that follow.

As a preliminary matter, the Board finds the compilation of the record by Mr. Pettingill in support of the Delaware regulation to be extensive and thorough. He demonstrated products currently in the market capable of meeting the broad and present needs of the Delaware consumer. The Board recognizes his efforts in this matter.

The Board disagrees with the appellants' contention that the Secretary was not justified in relying, in part, on information provided by the manufacturers in reaching his decision. The Board finds that the Secretary was justified in relying partially on the manufacturers' information (such as the PDS's, Internet information and warranties) to conclude that low-VOC coatings are available in the market to meet a broad spectrum of coating needs. As Mr. Pettingill testified, information such as the PDS's is not readily available to the average consumer and is relied upon by the contracting community. Technical data and descriptions of physical characteristics are properties derived from paint chemists and are not just marketing claims. Accordingly, such information is not simply a marketing tool. The record further indicates that the agency actively confirmed with the manufacturers that a sizeable sample of such information is reliable. Even if we

believed otherwise, it would paint a rather disingenuous picture of those manufacturers who make claims for products on PDS's, the Internet and warranties where those products have characteristics other than those represented to the public.

The Board also disagrees with the appellants' contention that the Delaware regulation was a pre-determined result. The model rule resulting from the STAPPA/ALAPCO workgroup was developed with considerable input from the Delaware agency. Furthermore, it was evident from the testimony of Mr. Pettingill that the model rule was a template only. It was not accepted wholesale by the agency. Modifications were made as a result of an extraordinary effort to obtain public and industry input. In addition, we note that based upon the results of the Delaware public comment process, the STAPPA/ALAPCO group has modified the model rule. This was a fluid process with no pre-determined outcome. We found Mr. Pettingill's testimony to be very credible and that his efforts were aimed at obtaining the best possible rule for the State of Delaware.

The Board further finds that the agency's reliance on the scientific surveys conducted for the development of the California SCM was not misplaced. The SCM was designed for all of California, and California has several climate zones including those with similar conditions as can be found in Delaware. In addition, the peer reviews conducted by the STAPPA/ALAPCO group as well as subsequent studies have verified the reliability of those California studies. The Board did not place much reliance on the testimony of Ms. Kazen-Harding. While she criticized the protocol utilized in the NTS study, she also testified that the industry itself has no set protocols for its own testing. Mr. Nyarady testified that the committee that chose the contractor to perform the NTS study, and which

West Corporation v. Washington State Department of Labor and Industries, 980 P.2d 701, 714 (Wash. Supr., 1999). As the testimony established, the Delaware agency—given its limited resources—could not have undertaken such a survey on its own. According to Mr. Pettingill's testimony, the CARB reports as well as the surveys were peer reviewed. In addition to the California-based studies, the record also contains (among others) the 1995 Army Corp of Engineers study on zinc-enriched epoxy primers and topcoats and the 1990 Aberdeen Proving Ground study.

The Board also considered the evidence and testimony related to the performance-based issues raised by the appellants. The Board was not persuaded by this evidence. On the subject of potential re-application of water-based products (both a performance-based issue and an emissions issue), the Board found the evidence supporting the appellants' position to be insufficient. At present, the concept of increased VOC's due to re-application is speculative. First, the Board finds that it is based upon a generalization subject to manipulation that oil-based or alkyd paints have greater durability than water-borne products. What minimal evidence we have to date (both testing pursuant to an agreed-upon protocol and cost data) does not support the generalization. Furthermore, the Board was not convinced that the evidence presented by the appellants' witnesses was a valid comparison because of the formularies utilized. Finally, even if there are specific coating categories where evidence may eventually support the appellant's theory, nothing prevents the manufacturers from petitioning the Secretary for targeted relief at some future date.

Panelization is another performance issue for which considerable time was devoted

at the hearing. The Board was not convinced by Dr. Gardner, the appellants' expert on panelization. On questioning by the Board, Dr. Gardner admitted that he did not equalize the solids so as to obtain a true comparison of the products he was testing. In addition, he did not know the brands of the coatings he utilized, or their VOC contents. Furthermore, he did not orient the grain of the wood in a manner that would replicate conditions that would be experienced in the field. The Board found the testimony of Mr. Fuhr to be more convincing in that he was aware of at least two product lines where there has not been panelization problems for over ten (10) years with the proper application. Mr. Fuhr was a witness with extensive practical exposure and technical capability. The Board also accepts his representations that the public prefers the appearance of the water-borne finishes. We find that although panelization may occur (even with an oil-borne finish), it can be minimized or completely reduced with proper preparation and application.

Cost is a factor in the consideration of any regulation. The agency adequately addressed this factor in promulgating this regulation. Reducing VOC emissions is not without cost to the public and the consumer. Testimony revealed that this varies from \$70 million per ton for a train between Dover and Wilmington to \$500,000 per ton for a reduction of speed on a particular State highway. According to Mr. Nyarady, the cost for VOC reductions in AIM coatings is \$6,000 per ton. The costs involved here are not unreasonable for the health benefits of reducing ground level ozone. In addition, the agency considered one of the more objectionable aspects of the proposed regulation—the reporting provision—and modified the rule with the effect of reducing future implementation costs to the manufacturers.

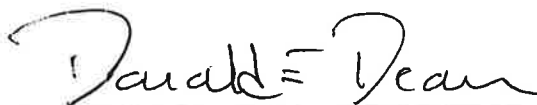
## **STATEMENT OF DETERMINATION**

In conclusion, the Board found that the regulatory process under review is supported by a reasonable basis in the record. It was not arbitrary and capricious. The extraordinary effort by the agency to involve both the public and so-called "stakeholders" (representatives from industry, manufacturers and contractors) in the comment and public hearing process is commendable. That effort was aimed at effectuating the purposes of Chapter 60 to protect the health and environment of the people of the State of Delaware by taking steps to improve air quality through the reduction of VOC's in AIM coatings. The Board upholds the Secretary's decision to promulgate the regulation.

**SO ORDERED** this 2ND~~th~~ day of JUNE, 2003.

## **ENVIRONMENTAL APPEALS BOARD**

The following Board members concur in this decision.



Donald E. Dean  
Chairman

Date: May 2, 2003

Environmental Appeals Board  
Appeal No. 2002-03

Date: 5/1/2003

  
Harold Gray  
Board Member

Environmental Appeals Board  
Appeal No. 2002-03

Date: 02 May 2003

  
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Peter McLaughlin  
Board Member